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From the Clarendonian, Pliocene, of Texas

BY

E. RAYMOND HALL and WALTER W. DALQUEST

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A New Doglike Carnivore, Genus *Cynarctus*, From the Clarendonian, Pliocene, of Texas

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E. RAYMOND HALL and WALTER W. DALQUEST

A study of a right maxilla bearing P3-M1 and part of a right mandibular ramus bearing m2 (see figures) reveals the existence of an unnamed species of cynarctine carnivore. It may be known as:

Cynarctus fortidens new species

Holotype.—Right maxilla bearing P3, P4, and M1, No. 11353 KU; bluff on west side of Turkey Creek, approximately 75 feet above stream, Raymond Farr Ranch, Center NE, NE, S. 48 Blk. C-3, E. L. and R. R. Ry. Co., Donley County, Texas [approximately 6.5 miles north and 1 mile east of Clarendon], Clarendon fauna, Early Pliocene age. Obtained by W. W. Dalquest, on June 25, 1960.

Referred material.—Fragment of right lower mandible bearing m2, No. 11354 KU (see fig. 2), found about two feet horizontally distant from the holotype in the same stratum as the holotype and on the same date by the same collector (a staff member of the Department of Biology of Midwestern University, Wichita Falls, Texas).

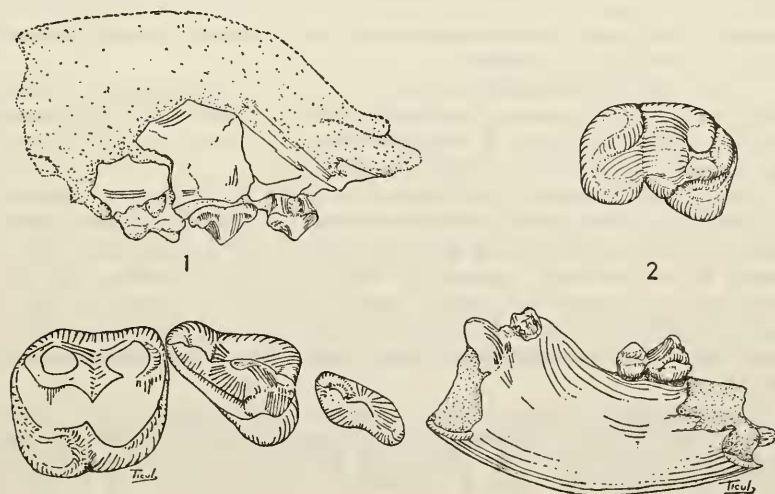


FIG. 1. *Cynarctus fortidens*, No. 11353 KU (Midwestern Univ. No. 2044). Lateral view of holotype $\times 1$, and occlusal view of check-teeth $\times 2$.

FIG. 2. *Cynarctus fortidens*, No. 11354 KU (Midwestern Univ. No. 2045). Lateral view of right lower mandible and m2 $\times 1$, and oblique occlusal view of m2 $\times 2$.

Diagnosis.—Size large (see measurements); no accessory cusp between protocone and paracone of fourth upper premolar; first upper molar longer than broad and lacking cingulum on part of tooth lingual to protocone.

Comparisons.—From *Cynarctus crucidens* Barbour and Cook (see page 225 of Two New Fossil Dogs of the Genus *Cynarctus* from Nebraska. Nebraska Geol. Surv., 4(pt. 15):223-227, 1914; also pages 330 and 338 of Dental Morphologie of the Procyonidae with a Description of *Cynarctoides*, Gen. Nov. Geol. Ser. Field Mus. Nat. Hist., 6:323-339, 10 figs., October 31, 1938) *C. fortidens* differs in lacking, instead of having, an accessory cusp between the protocone and paracone of the fourth upper premolar and in lacking, instead of having, a cingulum on the part of P4 that is internal (lingual) to the protocone.

Remarks.—The lower jaw and its second molar seem to be from an individual significantly larger than the holotype. Possibly the lower jaw and upper jaw are from two species but the lower jaw probably is from a male and the upper jaw from a female of the same species.

Reasons for regarding *Cynarctus* as belonging to the family Canidae instead of to the family Procyonidae have been stated recently in detail by E. C. Galbreath (Remarks on *Cynarctoides acridens* from the Miocene of Colorado. Trans. Kansas Acad. Sci., 59(3):373-378, 1 fig., October 31, 1956) and need not be repeated here. Although some uncertainty remains as to the familial position of *Cynarctus*, we favor Galbreath's view that the genus belongs in the family Canidae.

The holotype of *Cynarctus crucidens* is from Williams Canyon, Brown County, Nebraska. According to C. B. Schultz (*in litt.*, December 6, 1961), Williams Canyon is a tributary of Plumb Creek; the upper part of the Valentine formation and the younger lower part of the Ash Hollow formation are exposed in Williams Canyon; which one of these formations yielded the holotype of *C. crucidens* is unknown.

On the basis of the correlation chart (Pl. 1 in Nomenclature and Correlation of the North American Continental Tertiary. Bull. Geol. Soc. Amer., 52(pt. 1):1-48, 1941) by H. E. Wood 2nd *et al.*, *C. fortidens* and *C. crucidens* are equivalent in age or *C. fortidens* is the younger.

The rounded summits of the principal cusps of the teeth of *C. fortidens* suggests that it was mainly frugivorous instead of carnivorous—more frugivorous by far than the living gray fox, *Urocyon cinereoargenteus*, that is known to eat substantial amounts of fruits and berries. Indeed, no other canid that we know of has teeth so much adapted to a frugivorous diet as are those of *C. fortidens*. Its degree of adaptation to a frugivorous diet is more than in the procyonid genus *Nasua* but less than in the procyonid genus *Bassaricyon*.

Measurements (of crowns) of *C. fortidens*.—P3-M1, length, 25.8 (millimeters); P4-M1, 18.9; P3, length, 6.2; P3, breadth, 2.8; P4, length of outer border, 9.3; P4, breadth, 7.05; M1, length, 9.7; M1, breadth, 9.3; m2, length, 10.3; m2, breadth, 6.6; depth of mandible at posterior end of m2, 17; thickness of mandible, 7.1.

Transmitted February 21, 1962.

